



Product: BORER KILLER II  
EPA Reg. No.: 869-172  
Effective Date: 07/31/1996

**MATERIAL SAFETY DATA SHEET**  
Emergency Phone 800/535-5053

Size	Product Number	UPC Code
8 oz.	13208	0 49424 13208 9
Pint	13216	0 49424 13216 4

**Note:** Be sure to compare the EPA registration number as given on the MSDS with the EPA registration number as given on the label as some products have had the active ingredients changed without a corresponding change in the UPC number or in the item description.

**1. INGREDIENTS:**

0,0-diethyl 0-(3,5,6-trichloro-2-pyridinyl) phosphorothioate, (chlorpyrifos) CAS No. 00291-88-2  
INERT INGREDIENTS: Xylene range aromatic solvent

**2. PHYSICAL DATA:**

BOILING POINT: 29°F (143°C)  
VAPOR PRESSURE: <10mm Hg @ 25°C  
SOL. IN WATER: 0.0002 g / 100g  
SPECIFIC GRAVITY: 1.173  
CRYSTAL POINT: Approximately 45°F  
APPEARANCE: Straw liquid  
ODOR: Mercaptan-type odor

**3. FIRE AND EXPLOSION HAZARD DATA:**

FLASH POINT: 112°F (44°C)  
METHOD USED: TCC  
FLAMMABLE LIMITS: LFL: 1%, UFL: 6% (xylene range aromatic solvent)  
EXTINGUISHING MEDIA: Dry chemical, CO<sub>2</sub>, foam  
FIRE AND EXPLOSION HAZARDS: Foam system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed. Rapid decomposition above 320°F - 392°F (160°C - 200°C). Violent rupture of containers due to over pressurization may occur.  
FIRE-FIGHTING EQUIPMENT: Use positive-pressure self-contained breathing apparatus.

**4. HEALTH HAZARD DATA:**

EYES: May cause pain. May cause slight transient (temporary) eye irritation.  
SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation. Repeated contact may cause drying or flaking skin.  
SKIN ABSORPTION: A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD50 for skin absorption in rabbits is approximately 1000 mg/kg.  
INGESTION: Single dose oral toxicity is believed to be moderate. The oral LD50 for rates is expected to be 135 - 470 mg/kg respectively. Amounts ingested of larger amounts could cause serious injury, even death. If aspirated (liquid enters the lung), may cause lung damage or even death due to chemical pneumonia, a condition caused by petroleum and petroleum-like solvents.  
INHALATION: Excessive vapor concentrations of solvent are attainable and could be hazardous on single exposure. Signs and symptoms of excessive exposure, in order of increasing concentration, may be eye and upper respiratory tract irritation, feeling of increased body heat, central nervous system effects such as headache, dizziness, incoordination, drowsiness,



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**SYSTEMIC & OTHER EFFECTS:**

unconsciousness. Excessive exposure to aerosols (mists) may produce signs of cholinesterase depression. Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. Repeated excessive exposures to high concentrations of xylene may cause liver and kidney injury and effects on blood cells. Xylene, a minor component of this mixture, reported to have caused hearing loss in laboratory animals upon inhalation of high concentration; such effects have not been reported in humans. Ingredients are non-carcinogenic.

**5. ENVIRONMENTAL AND DISPOSAL INFORMATION:**

**ACTION TO TAKE FOR  
SPILLS/LEAKS:**

Absorb spills with material such as sand, ZORBALL, or dirt. Wash exposed body areas thoroughly after handling. Contain spill by diking to keep out of sewers. For large spills, barricade area, eliminate ignition sources and consult manufacturer.

**DISPOSAL METHOD:**

Do not contaminate food, feed, or water by storage or disposal. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinse is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

**6. REACTIVITY DATA:**

**STABILITY:**

Chlorpyrifos undergoes exothermic decomposition at approximately 266°F (130°C) which can lead to higher temperatures and violent decomposition if generated heat is not removed. Contains petroleum derivative solvent - will burn.

**INCOMPATIBILITY**

(Specific materials to avoid):

Alkaline materials. Consult manufacturer for specific cases.

**HAZARDOUS DECOMPOSITION  
PRODUCTS:**

Under fire conditions, hydrogen sulfide, ethyl sulfide, diethyl sulfide and nitrogen oxides can be formed.

**7. FIRST AID:**

**EYES:**

Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

**SKIN:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash clothing before reuse. Destroy contaminated shoes and other contaminated leather articles, such as belts and watchbands.

**INGESTION:**

**DO NOT INDUCE VOMITING.** Call a physician and/or transport to emergency facility immediately.

**INHALATION:**

Remove to fresh air if effects occur. Consult a physician.

**NOTES TO PHYSICIAN:**

Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying



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the stomach. Suggest serum and/or RBC cholinesterase determination. Atropine by injection is the preferable antidote. Oximes may or may not be therapeutic but it is recommended they not be used in place of atropine. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

**8. HANDLING PRECAUTIONS:**  
**EXPOSURE GUIDELINES:**

ACGIH TLV is 0.2 mg/m<sup>3</sup> for chlorpyrifos; the STEL is 0.6 mg/m<sup>3</sup>. ACGIH TLV and OSHA PEL are 100 ppm.

**VENTILATION:**

Control airborne concentrations below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

**RESPIRATORY PROTECTION:**

Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus.

**SKIN PROTECTION:**

Use permeation-resistant clothing. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Safety shower should be located in immediate work area.

**EYE PROTECTION:**

Use safety goggles. Where contact with liquid is likely, chemical goggles are recommended because eye contact with this material may cause pain, even though it is unlikely to cause injury. If vapor exposure causes eye discomfort, use a full-face respirator.

**9. ADDITIONAL INFORMATION:**  
**SPECIAL PRECAUTIONS TO BE TAKEN**  
**IN HANDLING AND STORAGE:**

See label. Keep out of reach of children. Do not swallow. Do not get in eyes, on skin or on clothing. Avoid breathing mist or vapors. Keep away from heat and open flame. Handle concentrate in ventilated area. Wash thoroughly after handling. Depending on degree of exposure of personnel, consider monitoring blood cholinesterase levels. If in doubt, seek advice from the Dow Chemical Company. Keep away from food, feedstuffs and domestic water supplies.

**SARA HAZARD CATEGORY:**

An immediate health hazard. A delayed health hazard. A fire hazard.

**10. TRANSPORTATION INFORMATION:**

**DESCRIPTION:**

Consumer Commodity ORM-D Liquid (RQ Chlorpyrifos)

**HAZARDOUS CLASS:**

N/A

**I.D. NUMBER:**

ORM-D

**PACKING GROUP:**

N/A

**LABELING REQUIRED:**

N/A

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